

```

chain nodes :
13 14 16 19 20 21 22 23 24
ring nodes :
1 2 3 4 5 6 7 8 9 10
chain bonds :
1-14 2-19 4-20 5-23 6-24 7-13 8-22 9-21 10-16
ring bonds :
1-2 1-4 2-3 3-4 3-6 3-5 3-9 3-8 5-7 6-7 8-10 9-10
exact/norm bonds :
1-2 1-4 1-14 2-3 2-19 3-4 3-6 3-5 3-9 3-8 4-20 5-7 5-23 6-7 6-24
7-13 8-10 8-22 9-10 9-21 10-16

```

G1:H,O,S,N,P,Si,CH₃,Et,n-Pr,i-Pr,n-Bu,i-Bu,s-Bu,t-Bu

G2:O,S,N,P,Si,CH₃,Et,n-Pr,i-Pr,n-Bu,i-Bu,s-Bu,t-Bu

```

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
13:CLASS 14:CLASS 16:CLASS 19:CLASS 20:CLASS 21:CLASS 22:CLASS 23:CLASS
24:CLASS

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L1 STRUCTURE UPLOADED

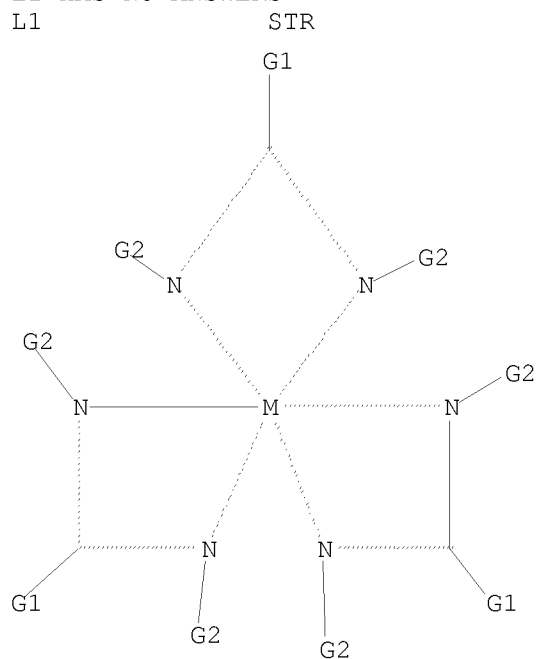
=> d his

(FILE 'HOME' ENTERED AT 17:22:59 ON 11 OCT 2008)

FILE 'REGISTRY' ENTERED AT 17:23:22 ON 11 OCT 2008

L1 STRUCTURE UPLOADED

```
=> d l1
L1 HAS NO ANSWERS
L1
```



G1 H, O, S, N, P, Si, Me, Et, n-Pr, i-Pr, n-Bu, i-Bu, s-Bu, t-Bu

G2 O, S, N, P, Si, Me, Et, n-Pr, i-Pr, n-Bu, i-Bu, s-Bu, t-Bu

Structure attributes must be viewed using STN Express query preparation.

```
=> s l1
SAMPLE SEARCH INITIATED 17:24:56 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -      868 TO ITERATE
```

```
100.0% PROCESSED      868 ITERATIONS          3 ANSWERS
SEARCH TIME: 00.00.01
```

```
FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:   15593 TO   19127
PROJECTED ANSWERS:      3 TO      163
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```
L2          3 SEA SSS SAM L1
```

```
=> s l1 full
FULL SEARCH INITIATED 17:25:02 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -    17802 TO ITERATE
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100.0% PROCESSED    17802 ITERATIONS          65 ANSWERS
SEARCH TIME: 00.00.01
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L3          65 SEA SSS FUL L1
```

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=> fil caplus
COST IN U.S. DOLLARS          SINCE FILE          TOTAL
                                ENTRY          SESSION
FULL ESTIMATED COST          179.28          179.49
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FILE 'CAPLUS' ENTERED AT 17:25:09 ON 11 OCT 2008
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FILE COVERS 1907 - 11 Oct 2008 VOL 149 ISS 16
FILE LAST UPDATED: 10 Oct 2008 (20081010/ED)

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<http://www.cas.org/legal/infopolicy.html>

=> s 13

L4 31 L3

=> s 14 and py<2003

22959030 PY<2003

L5 0 L4 AND PY<2003

=> s 14 and py<=2003

24009775 PY<=2003

L6 1 L4 AND PY<=2003

=> d bib abs

L6 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2003:840456 CAPLUS

DN 140:52159

TI Synthesis and Characterization of Volatile, Thermally Stable, Reactive Transition Metal Amidinates

AU Lim, Booyong S.; Rahtu, Antti; Park, Jin-Seong; Gordon, Roy G.

CS Department of Chemistry and Chemical Biology, Harvard University, Cambridge, MA, 02138, USA

SO Inorganic Chemistry (2003), 42(24), 7951-7958

CODEN: INOCAJ; ISSN: 0020-1669

PB American Chemical Society

DT Journal

LA English

OS CASREACT 140:52159

AB Homoleptic metal amidinates $[M(R-R'AMD)_n]_x$ ($R = iPr, tBu, R' = Me, tBu$) were prepared and structurally characterized for the transition metals Ti, V, Mn, Fe, Co, Ni, Cu, Ag, and La. In oxidation state 3, monomeric structures were found for Ti(III), V(III), and La(III). Bridging structures were observed for the metals in oxidation state 1; Cu(I) and Ag(I) are held in bridged dimers, and Ag(I) also formed a trimer that cocrystd. with the dimer. Metals in oxidation state 2 occurred in either monomeric or dimeric form. Metals with smaller ionic radii (Co, Ni) were monomeric.

Larger metals (Fe, Mn) gave monomeric structures only with the bulkier tert-butyl-substituted amidinates, while the less bulky isopropyl-substituted amidinates formed dimers. The new compds. have properties well-suited for use as precursors for atomic layer deposition (ALD) of thin films, such as high volatility, high thermal stability, and high and properly self-limited reactivity with H2 depositing pure metals, or H2O vapor depositing metal oxides.

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s 14 and py<=2005
26291136 PY<=2005
L7 13 L4 AND PY<=2005

=> d 1-13 bib abs

L7 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2005:1335530 CAPLUS
DN 144:44312
TI Technique for formation of dielectric nanomaterials for capacitive devices
IN Girardie, Lionel
PA Girardie Lionel, Fr.
SO Fr. Demande, 18 pp.
CODEN: FRXXBL

DT Patent
LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	FR 2871938	A1	20051223	FR 2004-6551	20040616 <--
	FR 2871938	B1	20060922		
PRAI	FR 2004-6551		20040616		

AB The technique of dielec. nanomaterial formation is described for capacitive devices. A technique of dielec. nanomaterial formation above a semiconductor material or a conducting material is characterized in that it consists of a cycle of mol. reactions and saturation of surfaces comprising the successive and indissociable stages to make grow an insulating material with nanostructures whose each nanostructure can be thick 3, 8 or 11 Angstroms and forming of the stable compds. such as for example composed such as PraZrbOcNd or HfaLabTicOdNe or GeaLabHfcOdNe. Use is in the manufacture of DRAM memories, transistor and components passive and capacitive and allowing to reach equivalent elec. thicknesses out of silicon dioxide lower than 8 Angstroms.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2005:1066089 CAPLUS
DN 144:15965
TI Synthesis, structure and properties of volatile lanthanide complexes containing amidinate ligands: application for Er2O3 thin film growth by atomic layer deposition
AU Paeivaesaari, Jani; Dezelah, Charles L., IV; Back, Dwayne; El-Kaderi, Hani M.; Heeg, Mary Jane; Putkonen, Matti; Niinistö, Lauri; Winter, Charles H.
CS Laboratory of Inorganic and Analytical Chemistry, Helsinki University of Technology, Espoo, FIN-0201, Finland
SO Journal of Materials Chemistry (2005), 15(39), 4224-4233
CODEN: JMACEP; ISSN: 0959-9428
PB Royal Society of Chemistry
DT Journal
LA English

OS CASREACT 144:15965

AB Treatment of anhydrous rare earth chlorides with three equivalent of Li 1,3-di-tert-butylacetamidinate (prepared in situ from the di-tert-butylcarbodiimide and methyllithium) in THF at ambient temperature afforded $\text{Ln}(\text{tBuNCMeNtBu})_3$ ($\text{Ln} = \text{Y, La, Ce, Nd, Eu, Er, Lu}$) in 57-72% isolated yields. X-ray crystal structures of these complexes demonstrated monomeric formulations with distorted octahedral geometry about the lanthanide(III) ions. These new complexes are thermally stable at $>300^\circ$, and sublime without decomposition between $180\text{--}220^\circ/0.05$ torr. The atomic layer deposition of Er_2O_3 films was demonstrated using $\text{Er}(\text{tBuNCMeNtBu})_3$ and ozone with substrate temps. between $225\text{--}300^\circ$. The growth rate increased linearly with substrate temperature from 0.37 \AA per cycle at 225° to 0.55 \AA per cycle at 300° . Substrate temps. of $>300^\circ$ resulted in significant thickness gradients across the substrates, suggesting thermal decomposition of the precursor. The film growth rate increased slightly with an Er precursor pulse length between 1.0 and 3.0 s, with growth rates of 0.39 and 0.51 \AA per cycle, resp. In films deposited at 250° , the growth rates varied linearly with the number of deposition cycles. Time of flight elastic recoil analyses demonstrated slightly O-rich Er_2O_3 films, with C, H and F levels of 1.0-1.9, 1.7-1.9 and 0.3-1.3 atom%, resp., at substrate temps. of 250 and 300° . IR spectroscopy showed carbonate, suggesting that the C and slight excess of O in the films are due to this species. The as-deposited films were amorphous $<300^\circ$, but showed reflections due to cubic Er_2O_3 at 300° . Atomic force microscopy showed a root mean square surface roughness of 0.3 and 2.8 nm for films deposited at 250 and 300° , resp.

RE.CNT 67 THERE ARE 67 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2005:797630 CAPLUS

DN 143:397281

TI Atomic Layer Deposition of Y_2O_3 Thin Films from Yttrium Tris(N,N'-diisopropylacetamidinate) and Water

AU De Rouffignac, Philippe; Park, Jin-Seong; Gordon, Roy G.

CS Department of Chemistry and Chemical Biology, Harvard University, Cambridge, MA, 02138, USA

SO Chemistry of Materials (2005), 17(19), 4808-4814
CODEN: CMATEX; ISSN: 0897-4756

PB American Chemical Society

DT Journal

LA English

AB Y_2O_3 thin film was deposited by atomic layer deposition (ALD) with precursor yttrium tris(N,N'-diisopropylacetamidinate), $\text{Y}(\text{iPr}_2\text{amd})_3$ and water. The precursor was thermally stable and volatile and had high reactivity with water. The growth rate of Y_2O_3 films was $0.8 \text{ \AA}/\text{cycle}$ over a wide temperature range ($150\text{--}280^\circ\text{C}$). The films were very pure (C, N < 0.5 atomic %) and had a refractive index of 1.8. The films were smooth and had a cubic polycryst. structure. High quality films were also deposited in 40:1 aspect ratio profiled substrates. Y_2O_3 films adsorbed water after air exposure because Rutherford backscattering spectroscopy (RBS) and XPS showed an increased oxygen ratio ($\text{O}/\text{Y} > 1.5$) and -OH bonds in air-exposed films. A relatively high permittivity (.apprx.12), a low leakage c.d. ($<10^{-7} \text{ cm}^2$ at $2 \text{ MV}/\text{cm}$) and high elec. breakdown field (.apprx.5 MV/cm) were measured for capacitors prepared from Al_2O_3 (10 \AA)/ $\text{Y}_2\text{O}_3/\text{n-Si}$ structures. Uncapped Y_2O_3 films showed flatband voltage shifts of 1 V and increased leakage current prior to annealing. ALD Y_2O_3 is a promising dielec. for advanced electronic applications in nanoscale devices.

RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 2005:570354 CAPLUS
 DN 143:108065
 TI Capacitor with aluminum oxide and lanthanum oxide containing dielectric structure and fabrication method thereof
 IN Lee, Kee-Jeung; Kwon, Hong
 PA Hynix Semiconductor Inc., S. Korea
 SO U.S. Pat. Appl. Publ., 16 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20050141168	A1	20050630	US 2004-880372	20040630 <--
	US 7102875	B2	20060905		
	KR 2005067535	A	20050705	KR 2003-98521	20031229 <--
	KR 2005067571	A	20050705	KR 2003-98558	20031229 <--
PRAI	KR 2003-98521	A	20031229		
	KR 2003-98558	A	20031229		

AB An object of the present invention is to provide a capacitor with an aluminum oxide and lanthanum oxide containing dual dielec. structure capable of obtaining a large-scale capacitance over approx. 30 fF per cell and a decreased equivalent oxide thickness and a method for fabricating. The capacitor includes: a lower electrode; a 1st dielec. layer with a high energy band gap formed on the lower electrode; a 2nd dielec. layer formed on the 1st dielec. layer, the 2nd dielec. layer with a high dielec. constant, wherein an energy band gap of the 2nd dielec. layer is lower than the energy band gap of the 1st dielec. layer; and an upper electrode formed on the 2nd dielec. layer.

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 2005:404528 CAPLUS
 DN 143:358911
 TI Synthesis, structure, and luminescent properties of guanidinate-based terbium complexes
 AU Pang, Xingan; Sun, Hongmei; Zhang, Yong; Shen, Qi; Zhang, Hongjie
 CS Department of Chemistry and Chemical Engineering, Suzhou University, Suzhou, 215006, Peop. Rep. China
 SO European Journal of Inorganic Chemistry (2005), (8), 1487-1491
 CODEN: EJICFO; ISSN: 1434-1948
 PB Wiley-VCH Verlag GmbH & Co. KGaA
 DT Journal
 LA English
 OS CASREACT 143:358911

AB Two guanidinate-based Tb complexes [iPrNC(NiPr₂)NiPr]_mTbCl_{3-m} [m = 3 (1), 2 (2)] were synthesized, and the crystal structure of 1 was determined by single-crystal x-ray diffraction. Complexes 1 and 2 were further characterized by elemental anal., IR, and ¹H NMR spectroscopy. In complex 1 the guanidinate ligand coordinates to the Tb atom through the N atoms in a bidentate chelating coordination mode. As a result of an efficient energy transfer from the guanidinate ligand to the central Tb³⁺, both 1 and 2 exhibit strong green emission corresponding to Tb³⁺ 5D₄-7F_J (J = 6, 5, 4, 3) transitions. Among them, the emission 5D₄-7F₅ (550 nm) is the most prominent. The lifetimes of the 5D₄ Tb³⁺ excited levels of the two complexes are .apprx.0.90 ms.

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2005:369808 CAPLUS
 DN 143:60351
 TI Homoleptic lanthanide guanidinate complexes: The effective initiators for the polymerization of trimethylene carbonate and its copolymerization with ϵ -caprolactone
 AU Zhou, Liying; Sun, Hongmei; Chen, Jinglei; Yao, Yingming; Shen, Qi
 CS Department of Chemistry and Chemical Engineering, Suzhou University, Suzhou, 215006, Peop. Rep. China
 SO Journal of Polymer Science, Part A: Polymer Chemistry (2005), 43(9), 1778-1786
 CODEN: JPACEC; ISSN: 0887-624X
 PB John Wiley & Sons, Inc.
 DT Journal
 LA English
 AB The ring-opening polymerization of trimethylene carbonate (TMC) using homoleptic lanthanide guanidinate complexes $[RNC(NR')_2NR]_3Ln$ as single component initiators has been fully investigated for the first time. The substituents on guanidinate ligands and center metals show great effect on the catalytic activities of these complexes, i.e., $-N(CH_2)_5 > -NiPr_2 > -NPh_2$ (for R'), $-Cy > -iPr$ (for R), and $Yb > Sm > Nd$. Among them, $[Ph_2NC(NCy)_2]_3Yb$ shows the highest catalytic activity. Some features and kinetic behaviors of the TMC polymerization initiated by $[Ph_2NC(NCy)_2]_3Yb$ were studied in detail. The polymerization rate is first order, with the monomer concentration and M_n of the polymer increasing with the polymer yield increasing linearly. The results indicated the present system having "living character.". A mechanism that the polymerization occurs via acyl-oxygen bond cleavage rather than alkyl-oxygen bond cleavage was proposed. The copolymn. of TMC with ϵ -caprolactone (ϵ -CL) initiated by $[Ph_2NC(NCy)_2]_3Yb$ was also tested.

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 2005:252037 CAPLUS
 DN 142:455880
 TI The Insertion of Carbodiimides into Al and Ga Amido Linkages. Guanidates and Mixed Amido Guanidates of Aluminum and Gallium
 AU Kenney, Amanda P.; Yap, Glenn P. A.; Richeson, Darrin S.; Barry, Sean T.
 CS Department of Chemistry, Carleton University, Ottawa, ON, K1S 5B6, Can.
 SO Inorganic Chemistry (2005), 44(8), 2926-2933
 CODEN: INOCAJ; ISSN: 0020-1669
 PB American Chemical Society
 DT Journal
 LA English
 OS CASREACT 142:455880
 AB The insertion of carbodiimides into existing metal-heteroatom bonds is an important preparative route for the synthesis of useful ligand systems such as amidates and guanidates. The authors' interest lies in multiple insertions at one metal center and the mechanisms of insertion and rearrangement. The authors synthesized and characterized $[Me_2NC(NiPr)_2]_nM(NMe_2)_{3-n}$ ($n = 1, 2, 3$; $M = Al, Ga$). The authors have studied the mechanism of synthesis and discovered a ligand transfer step that is important for the formation of the final products.

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 2005:106523 CAPLUS
 DN 142:355310
 TI Theoretical and Synthetic Investigations of Carbodiimide Insertions into

Al-CH₃ and Al-N(CH₃)₂ Bonds

AU Rowley, Christopher N.; DiLabio, Gino A.; Barry, Sean T.
 CS Department of Chemistry, Carleton University, Ottawa, ON, K1S 5B6, Can.
 SO Inorganic Chemistry (2005), 44(6), 1983-1991
 CODEN: INOCAJ; ISSN: 0020-1669

PB American Chemical Society

DT Journal

LA English

OS CASREACT 142:355310

AB Carbodiimides are known to insert into Al-C bonds to form four-membered bidentate amidinate chelate rings. Insertions into Al-R and Al-NR'₂ (R, R' = alkyl) are reported in the literature. The authors have devised a mechanism for these insertions and modeled it using d. functional theory (DFT) calcns. The calculated barrier heights for competitive insertions show the insertion into Al-NMe₂ goes through a lower barrier than the reaction with Al-CH₃ for diisopropylcarbodiimide due to the necessity of forming a pentavalent C intermediate in the Al-CH₃ case. However, insertion into Al-CH₃ has the lower barrier for the reaction with di-tert-butylcarbodiimide because of steric effects, which is consistent with the published exptl. results. The authors synthesized Al amidinates containing two and three acetamidinate rings via insertion of 2 and 3 equiv of diisopropylcarbodiimide into trimethylaluminum (TMA). The crystal structure for [CH₃C(NiPr)₂]₂AlCH₃ is reported. Although the 1st insertion is rapid at room temperature, the 2nd and 3rd insertions require refluxing >70°. The authors have calculated the barrier heights for the 1st and 2nd insertion and found that this is due to a higher barrier for the migration of the Me group in the 2nd insertion. This higher barrier is the result of the lack of an exoergic precoordination of the carbodiimide to the metal center, which facilitates the 1st insertion.

RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2004:523837 CAPLUS

DN 142:46351

TI Rare earth doped silicon nanocrystals derived from an erbium amidinate precursor

AU Ji, Jumin; Senter, Robert A.; Tessler, Leandro R.; Back, Dwayne; Winter, Charles H.; Coffey, Jeffery L.

CS Department of Chemistry, Texas Christian University, Fort Worth, TX, 76129, USA

SO Nanotechnology (2004), 15(5), 643-647

CODEN: NNOTER; ISSN: 0957-4484

PB Institute of Physics Publishing

DT Journal

LA English

AB The authors describe the use of Er(tBuNC(CH₃)NtBu)₃ as a dopant source in the preparation of Si nanocrystals, particularly as regards their observed structure, composition, and photophys. properties. These nanocrystals were prepared by the co-pyrolysis of Er(tBuNC(CH₃)NtBu)₃ and Si₂H₆ in a dilute He stream at 1000°. Characterization methods include high resolution electron microscopy, selected area electron diffraction, energy dispersive x-ray measurements, extended x-ray absorption spectroscopy, and photoluminescence spectroscopy. In conditions identical to those used previously for β-diketonate precursors, nanocrystals doped using this amidinate source are larger in size, of a narrower size distribution, and contain more Er in the nanocrystal on average. Steady state photoluminescence measurements as a function of excitation wavelength confirm that the characteristic 1540 nm emission detected in these nanocrystals emit by a Si exciton-mediated pathway. These results are a clear example of precursor dopant chemical exerting a significant effect on resultant nanoparticle properties.

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:453414 CAPLUS
DN 141:14815
TI Atomic layer deposition using metal amidinates
IN Gordon, Roy G.; Lim, Booyong S.
PA President and Fellows of Harvard College, USA
SO PCT Int. Appl., 52 pp.
 CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004046417	A2	20040603	WO 2003-US36568	20031114 <--
	WO 2004046417	A3	20050310		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	AU 2003290956	A1	20040615	AU 2003-290956	20031114 <--
	EP 1563117	A2	20050817	EP 2003-783541	20031114 <--
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
	CN 1726303	A	20060125	CN 2003-80106327	20031114
	JP 2006511716	T	20060406	JP 2004-570408	20031114
	US 20060141155	A1	20060629	US 2006-534687	20060131
PRAI	US 2002-426975P	P	20021115		
	US 2003-463365P	P	20030416		
	WO 2003-US36568	W	20031114		

OS MARPAT 141:14815

AB Metal films are deposited with uniform thickness and excellent step coverage. Cu metal films were deposited on heated substrates by the reaction of alternating doses of Cu(I) N,N'-diisopropylacetamidinate vapor and H gas. Co metal films were deposited on heated substrates by the reaction of alternating doses of Co(II) bis(N,N'-diisopropylacetamidinate) vapor and H gas. Nitrides and oxides of these metals can be formed by replacing the H with NH3 or H2O vapor, resp. The films have very uniform thickness and excellent step coverage in narrow holes. Suitable applications include elec. interconnects in microelectronics and magnetoresistant layers in magnetic information storage devices.

L7 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:431973 CAPLUS
DN 141:123721
TI Insertion of a Carbodiimide into the Ln-N σ -Bond of Organolanthanide Complexes. Isomerization and Rearrangement of Organolanthanides Containing Guanidinate Ligands
AU Zhang, Jie; Cai, Ruifang; Weng, Linhong; Zhou, Xigeng
CS Department of Chemistry, Molecular Catalysis and Innovative Material Laboratory, Fudan University, Shanghai, 200433, Peop. Rep. China
SO Organometallics (2004), 23(13), 3303-3308
 CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society

DT Journal
LA English
OS CASREACT 141:123721
AB Reaction of (C5H5)YC12(THF)3 with LiNiPr2 and subsequently with 2 equiv of N,N'-diisopropylcarbodiimide (iPrN:C:NiPr) in THF gave the organoyttrium guanidates Y[iPrNC(NiPr2)NiPr]3 (1) and (C5H5)2Y[iPrNC(NiPr2)NiPr] (2), which may be rationalized by the rearrangement reaction of the diinsertion product (C5H5)Y[iPrNC(NiPr2)NiPr]2. Treatment of iPrN:C:NiPr with lanthanocene primary amides [(C5H5)2LnNHR]2 (R = tBu, Ln = Yb, Er, Dy, Y; R = Ph, Ln = Yb) gave the unexpected products (C5H5)2Yb[RNC(NHiPr)NiPr] (R = tBu, Ln = Yb (3), Er (4), Dy (5), Y(6); R = Ph, Ln = Yb (7)), indicating that a novel isomerization reaction involving a 1,3-hydrogen shift takes place along with the insertion of carbodiimide into the Ln-N σ -bond, which provides an efficient synthesis of organolanthanide complexes with asym. guanidinate ligands. All these complexes were characterized by elemental anal. and spectroscopic properties. The structures of complexes 1-5 and 7 were also determined by X-ray diffraction anal.
RE.CNT 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:171144 CAPLUS
DN 140:407159
TI Synthesis, characterization of homoleptic guanidino lanthanide complexes and their catalytic activity for the ring-opening polymerization of ϵ -caprolactone
AU Chen, Jing-Lei; Yao, Ying-Ming; Luo, Yun-Jie; Zhou, Li-Ying; Yong, Zhang; Qi, Shen
CS Department of Chemistry and Chemical Engineering, Suzhou University, Suzhou, 215006, Peop. Rep. China
SO Journal of Organometallic Chemistry (2004), 689(6), 1019-1024
CODEN: JORCAI; ISSN: 0022-328X
PB Elsevier Science B.V.
DT Journal
LA English
AB A series of homoleptic lanthanide guanidinate (guan)3Ln·((C2H5)2O)n (Ln = Yb, n = 1 guan = (CyN)2CNiPr2; Ln = Nd, n = 0, guan = (CyN)2CNiPr2, (I); (iPrN)2CNiPr2, (II); (iPrN)2CN(CH2)5); (iPr = iso-Pr, Cy = cyclohexyl) were synthesized by the reaction of lithium guanidinate with anhydrous lanthanide trichlorides in THF in a 3:1 molar ratio. The mol. structures of I and II were determined to be monomeric in the solid state with a six coordinate lanthanide metal ligated by six nitrogens of three guanidinate groups. All the complexes exhibited extremely high activity for the ring-opening polymerization of ϵ -caprolactone and the polymerization gave polymers with high mol. wts. The different substituents at guanidino ligands have a great effect on the catalytic activity. The mechanism of the polymerization was discussed.
RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2003:840456 CAPLUS
DN 140:52159
TI Synthesis and Characterization of Volatile, Thermally Stable, Reactive Transition Metal Amidinates
AU Lim, Booyong S.; Rahtu, Antti; Park, Jin-Seong; Gordon, Roy G.
CS Department of Chemistry and Chemical Biology, Harvard University, Cambridge, MA, 02138, USA
SO Inorganic Chemistry (2003), 42(24), 7951-7958
CODEN: INOCAJ; ISSN: 0020-1669
PB American Chemical Society
DT Journal

LA English
 OS CASREACT 140:52159
 AB Homoleptic metal amidinates $[M(R-R'AMD)_n]_x$ ($R = iPr, tBu, R' = Me, tBu$) were prepared and structurally characterized for the transition metals Ti, V, Mn, Fe, Co, Ni, Cu, Ag, and La. In oxidation state 3, monomeric structures were found for Ti(III), V(III), and La(III). Bridging structures were observed for the metals in oxidation state 1; Cu(I) and Ag(I) are held in bridged dimers, and Ag(I) also formed a trimer that cocrystd. with the dimer. Metals in oxidation state 2 occurred in either monomeric or dimeric form. Metals with smaller ionic radii (Co, Ni) were monomeric. Larger metals (Fe, Mn) gave monomeric structures only with the bulkier tert-butyl-substituted amidinates, while the less bulky isopropyl-substituted amidinates formed dimers. The new compds. have properties well-suited for use as precursors for atomic layer deposition (ALD) of thin films, such as high volatility, high thermal stability, and high and properly self-limited reactivity with H₂ depositing pure metals, or H₂O vapor depositing metal oxides.

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s metal amidinate#
 1871926 METAL
 555 AMIDINATE#
 L8 21 METAL AMIDINATE#
 (METAL(W)AMIDINATE#)

=> s 18 not 17
 L9 19 L8 NOT L7

=> d 1-17 bib abs

L9 ANSWER 1 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 2008:952685 CAPLUS
 TI Probing actinide metallocene chemistry via carbodiimide insertion reactions
 AU Walensky, Justin R.; Ziller, Joseph W.; Rheingold, Arnie; Evans, William J.
 CS Department of Chemistry, University of California, Irvine, Irvine, CA, 92697, USA
 SO Abstracts of Papers, 236th ACS National Meeting, Philadelphia, PA, United States, August 17-21, 2008 (2008), INOR-032 Publisher: American Chemical Society, Washington, D. C.
 CODEN: 69KXQ2
 DT Conference; Meeting Abstract; (computer optical disk)
 LA English
 AB Amidinate ligands, RNCR'NR, have been broadly investigated in inorg. chemical as ancillary monoanionic ligands that allow considerable variation in steric properties. In the actinide area, amidinate complexes have been prepared primarily from metal halide precursors and alkali metal amidinates. Amidinates can also be made by insertion of carbodiimides, RN=C=NR, into M-R' metal alkyl bonds. Initially, this reaction was studied with the well-characterized di-Me metallocene complexes, (C₅Me₅)₂AnMe₂ (An = Th, U), using RN=C=NR with R = cyclohexyl and iso-Pr. The metallocene amidinate complexes, (C₅Me₅)₂An[N(iPr)C(Me)N(iPr)]Me, were isolated in high yield. Exploration of carbodiimide insertion with the analogous di-Ph complex, (C₅Me₅)₂U(C₆H₅)₂, provided evidence for the ortho-metalated intermediate, (C₅Me₅)₂U(C₆H₄), believed to form by elimination of benzene from (C₅Me₅)₂U(C₆H₅)₂. iPrN=C=NiPr reacts with (C₅Me₅)₂U(C₆H₅)₂ to produce (C₅Me₅)₂U[N(iPr)C(Me)=N(iPr)(C₆H₄)] in which the C₆H₄ fragment is trapped in a crystallog. characterizable complex. The synthesis,

characterization, and reaction chemical of actinide metallocene complexes bearing these amidinate moieties will be described.

L9 ANSWER 2 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2008:7210 CAPLUS
DN 148:111459
TI Synthesis of metal(IV) tetra-amidinate compounds and their use in vapor deposition
IN Gordon, Roy G.; Lehn, Jean-Sebastien; Li, Huazhi
PA President and Fellows of Harvard College, USA
SO PCT Int. Appl., 36pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2008002546	A1	20080103	WO 2007-US14768	20070626
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	US 20080003359	A1	20080103	US 2006-581987	20061017
PRAI	US 2006-817209P	P	20060628		
	US 2006-581987	A	20061017		

OS MARPAT 148:111459
AB Metal(IV) tetrakis(N,N'-dialkylamidinates) were synthesized and characterized. Exemplary metals include hafnium, zirconium, tantalum, niobium, tungsten, molybdenum, tin and uranium. These compds. are volatile, highly stable thermally, and suitable for vapor deposition of metals and their oxides, nitrides and other compds.
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2007:527919 CAPLUS
DN 147:131966
TI Alkali-metal bis(aryl)formamidinates: a study of coordinative versatility
AU Junk, Peter C.; Cole, Marcus L.
CS School of Chemistry, Monash University, Victoria, 3800, Australia
SO Chemical Communications (Cambridge, United Kingdom) (2007), (16), 1579-1590
CODEN: CHCOFS; ISSN: 1359-7345
PB Royal Society of Chemistry
DT Journal; General Review
LA English
AB A review. The development of alkali-metal amidinate reagents, in particular formamidinates, has proceeded hand-in-hand with fundamental advances in transition-metal bonding, e.g. metal-metal bonding, and the progressive departure from cyclopentadienyl support ligands in early transition-metal catalysis. This highly personalized account highlights the coordinative versatility of one alkali-metal amidinate subclass; the bis(aryl)formamidinates. These compds. proved invaluable during transition-metal studies but were

considered unworthy of study in their own right prior to the authors' work.

RE.CNT 83 THERE ARE 83 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 4 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2007:52970 CAPLUS

DN 146:329133

TI Synthesis and structures of selected benzamidinates of Li, Na, Al, Zr and Sn(II) using the C1-symmetric ligands [N(SiMe₃)C(C₆H₄Me-4 or Ph)NPh]-

AU Hitchcock, Peter B.; Lappert, Michael F.; Merle, Philippe G.

CS Chemistry Department, University of Sussex, Brighton, BN1 9QJ, UK

SO Dalton Transactions (2007), (5), 585-594

CODEN: DTARAF; ISSN: 1477-9226

PB Royal Society of Chemistry

DT Journal

LA English

OS CASREACT 146:329133

AB Several compds. based on the C1-sym. ligands [N(R)C(Ar)NPh]- [B1, (Ar = C₆H₄Me-4) or B2 (Ar = Ph), R = SiMe₃] are reported. They are the crystalline metal benzamidinates [Li(μ : κ 2-B1)(OEt₂)]₂ (1), [Al(κ 2-B1)2Me] (2), [Al(κ 2-B1)2X] [X = Cl/Me, 1:1 (3)], [Sn(κ 2-B1)2] (4), Zr(κ 2-B1)2Cl₂ (5), [Zr(κ 2-B1)3Cl] (6), [Na(μ : κ 2-B1)(tmeda)]₂ (7), K[B1] (8), Li(B2)(OEt₂) (9) and Zr(κ 2-B1)3Cl (10) and the known benzamidine (Z)-H₂NC(C₆H₄Me-4):NPh (11). They were prepared by (i) insertion of the nitrile 4-MeC₆H₄CN (1, 7, 8, 11) or PhCN (9) into the appropriate M-N(R')Ph [R' = H and M = Li (1, 9), Na (7), K (8)] bond and subsequent hydrolysis for 11 [R' = H and M = Li], or (ii) a ligand transfer reaction using the Li amidinate 1 and Al(Me)2Cl (2, 3), SnCl₂ (4) or ZrCl₄ (5, 6), or Li(B2) and ZrCl₄ (10). The x-ray structures of 1, 2, 3, 4, 6·3PhMe, 7 and 11 are presented. Exploratory polymerization expts. are described, using 2, 5 or 6

as a

procatalyst with methylaluminoxane (MAO) (Al:Zr .apprx.500:1) as promoter. Thus, toluene solns. were exposed to C₂H₄ under ambient conditions; while 2 was unresponsive, 5 and 6 showed modest activity in the formation of polyethylene.

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2006:1197209 CAPLUS

DN 146:122093

TI Synthesis and characterization of complexes of Group 13 metal amidinate heterocycles with the CpFe(CO)₂ fragment

AU Jones, Cameron; Aldridge, Simon; Gans-Eichler, Timo; Stasch, Andreas

CS School of Chemistry, Centre for Fundamental and Applied Main Group Chemistry, Cardiff University, Cardiff, CF10 3AT, UK

SO Dalton Transactions (2006), (45), 5357-5361

CODEN: DTARAF; ISSN: 1477-9226

PB Royal Society of Chemistry

DT Journal

LA English

OS CASREACT 146:122093

AB The first examples of complexes between a four-membered amidinato-Group 13 metal(III) heterocycle and a transition metal fragment are formed in salt elimination reactions between Na[CpFe(CO)₂] and [MX₂(amid)], M = Al, Ga or In; X = Cl or Br; amid- = [(RN)2CBut]-; R = Pri or cyclohexyl (Cy). The formed complexes, [CpFe(CO)₂M(X)(amid)] (4 examples) were crystallog. characterized and subject to halide abstraction reactions. In one case, the cationic complex, [CpFe(CO)₂Ga(OEt₂){(CyN)2CBut}][BARf₄] (Arf₄ = C₆H₃(CF₃)_{2-3,5}), was isolated and crystallog. characterized. A hydrolysis

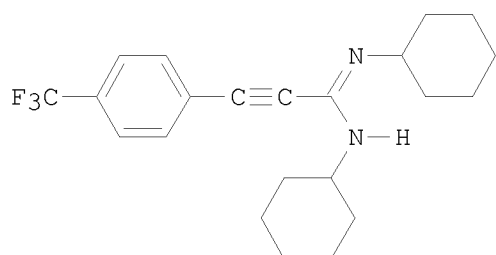
product of this complex, $[\{\text{CpFe}(\text{CO})_2\text{Ga}[(\text{CyN})_2\text{CBut}]\}_2(\mu\text{-OH})][\text{BArf}_4]$, was also isolated in low yield from this reaction and structurally characterized.

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2006:838368 CAPLUS
DN 146:163155
TI Principal trends in the chemistry of amidinate complexes of main-group and transition elements
AU Kissounko, D. A.; Zabalov, M. V.; Brusova, G. P.; Lemenovskii, D. A.
CS Department of Chemistry and Biochemistry, University of Maryland, College Park, MD, 20742, USA
SO Russian Chemical Reviews (2006), 75(5), 351-374
CODEN: RCRVAB; ISSN: 0036-021X
PB Turpion Ltd.
DT Journal; General Review
LA English
AB A review. Principal trends in modern organometallic chemical of transition and main group elements containing amidinate ligands are analyzed. The nature of element-amidinate ligand bonding inferred from the x-ray structural data and computational studies is discussed. Synthesis and reactivity of Group 1-15 metal amidinate complexes are reviewed. Particular emphasis is drawn to the use of amidinate complexes as catalysts for olefin polymerization and organic synthesis. Prospects in the development in this area of chemical are suggested. The bibliog. includes 151 refs.

RE.CNT 155 THERE ARE 155 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 7 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2005:1192484 CAPLUS
DN 144:87950
TI Catalytic addition of terminal alkynes to carbodiimides by half-sandwich rare earth metal complexes
AU Zhang, Wen-Xiong; Nishiura, Masayoshi; Hou, Zhaomin
CS Organometallic Chemistry Laboratory, RIKEN (The Institute of Physical and Chemical Research), Hirosawa 2-1, Wako, Saitama, 351-0198, Japan
SO Journal of the American Chemical Society (2005), 127(48), 16788-16789
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
OS CASREACT 144:87950
GI



I

AB The catalytic addition of terminal alkynes to carbodiimides has been achieved by use of half-sandwich rare earth metal complexes, such as

{Me₂Si(C₅Me₄)(NPh)}Y(CH₂SiMe₃)(THF)₂, which offered a straightforward, atom-economic route to the N,N'-disubstituted propiolamidines, e.g., **1**, which contain a conjugated C-C triple bond, a family of amidines which were difficult to prepare by other means. A rare earth metal amidinate species was confirmed to be a true catalytic species in this process, thus demonstrating that an amidinate unit, though being often used as an ancillary ligand for various organometallic complexes, can itself participate in a catalytic reaction under appropriate conditions.

RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 8 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2005:1148598 CAPLUS
DN 144:69876
TI Bulky formamidinate complexes of lithium: the first examples of $\eta^2:\eta^1\text{-C:N,N'}$ metal amidinate coordination
AU Cole, Marcus L.; Davies, Aaron J.; Jones, Cameron; Junk, Peter C.
CS School of Chemistry, Monash University, Victoria, 3800, Australia
SO New Journal of Chemistry (2005), 29(11), 1404-1408
CODEN: NJCHE5; ISSN: 1144-0546
PB Royal Society of Chemistry
DT Journal
LA English
OS CASREACT 144:69876
AB The Li complexes [Li{N(Ar)C(H)N(Ar)}(pmdeta)] [Ar = 2,6-R₂C₆H₃; R = Me (1), Et (2), iPr (3); pmde_ta = N,N,N',N'',N'''-pentamethyldiethylenetriamine], were synthesized in 67-82% yields and their solid state structures determined by x-ray methods. Compds. 1-3 comprise a Li(pmdeta) center coordinated by a bulky formamidinate in either the E-syn or E-anti isomeric form. The structures of compound 3 and one unique mol. unit of compound 1 (E-anti isomer) display coordination of the pendant amidinate imine, and can therefore be considered the 1st examples of $\eta^2:\eta^1\text{-C:N,N'}$ metal amidinate coordination.

RE.CNT 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 9 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:539558 CAPLUS
DN 141:260835
TI One Ligand Fits All: Cationic Mono(amidinate) Alkyl Catalysts over the Full Size Range of the Group 3 and Lanthanide Metals
AU Bambirra, Sergio; Bouwkamp, Marco W.; Meetsma, Auke; Hessen, Bart
CS Center for Catalytic Olefin Polymerization, Stratingh Institute for Chemistry and Chemical Engineering, University of Groningen, Groningen, 9747 AG, Neth.
SO Journal of the American Chemical Society (2004), 126(30), 9182-9183
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
OS CASREACT 141:260835
AB Using a sterically demanding amidinate ancillary ligand and an in-situ alkylation procedure, neutral mono(amidinate) dialkyl and cationic mono(amidinate) monoalkyl complexes were prepared for metals spanning the full size range of the Group 3 (IIIB) and lanthanide metals. Thus, reaction of [M(CH₂SiMe₃)₃(THF)₂] (M = Sc, Lu) with amidine PhC:NAr(NHAr) (Ar = 2,6-diisopropylphenyl (**1**)) gave the amidinate dialkyl complexes {[PhC(NAr)₂]M(CH₂SiMe₃)₂(THF)} (M and Ar = same as above). Complexes of larger amidinate dialkyl lanthanides {[PhC(NAr)₂]M(CH₂SiMe₃)₂(THF)₂} (M = La, Gd, Nd; Ar = same as above) were prepared in moderate yields by reaction of MX₃(THF)_n (M = La: X = Br, n = 4; M = Gd, Nd: X = Cl, n = 3) with **3**

equiv Me₃SiCH₂Li in THF for several hours followed by addition of 1 equiv of amidine I. Several of the structures were established by single crystal x-ray anal. The activity of the cationic monoalkyls in catalytic ethene polymerization varied by over 2 orders of magnitude depending on the metal ionic

radius, the intermediate metal sizes being found to be the most effective.

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 10 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2004:225506 CAPLUS

TI Metal organic frameworks from amidines

AU Melcer, Natalia J.; Yaghi, Omar M.

CS Department of Chemistry, University of Michigan, Ann Arbor, MI, 48109, USA

SO Abstracts of Papers, 227th ACS National Meeting, Anaheim, CA, United

States, March 28-April 1, 2004 (2004), INOR-169 Publisher: American

Chemical Society, Washington, D. C.

CODEN: 69FGKM

DT Conference; Meeting Abstract

LA English

AB Mol. complexes of amidinates are known with metals spanning the periodic table. Functionalization at the central carbon or nitrogen atoms allows for electronic and steric manipulation resulting in property control. Metal amidinates have been studied for use in polymerization catalysis and as a bridging ligand for the stabilization of dinuclear metal complexes containing metal-metal bonds. Here we report the first extended metal organic structure utilizing the amidine ligand.

L9 ANSWER 11 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2003:585206 CAPLUS

DN 139:149761

TI Synthesis of amidine ligands and binuclear transition metal amidinate complexes

IN Inoue, Akio; Tsukada, Naoshi

PA Sumitomo Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

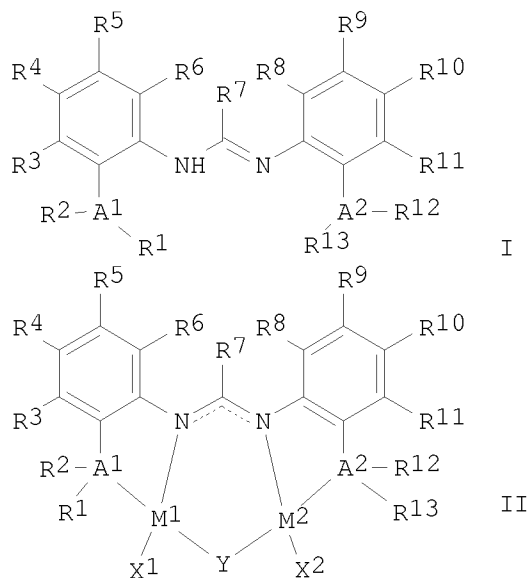
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 2003212886	A	20030730	JP 2002-15304	20020124
PRAI	JP 2002-15304		20020124		
OS	CASREACT 139:149761; MARPAT 139:149761				
GI					



AB The title ligands represented by I [R1, R2, R12, R13 = (un)substituted C1-10 alkyl, C6-20 aryl, C7-20 aralkyl; R3-R6, R8-R11 = H, halo, (un)substituted C1-10 alkyl(oxy), C6-20 aryl(oxy), C7-20 aralkyl(oxy), C1-20 hydrocarbylsilyl, C1-20 hydrocarbylamino; R7 = H, (un)substituted C1-0 alkyl, C6-20 aryl, C7-20 aralkyl; A1, A2 = Group 15 (VA) element; 2 neighboring groups of R3-R6, R8-R11 may form ring] and their transition metal complexes represented by II [R1-R13, A1, A2 = same as above; M1, M2 = Fe, Ru, Os, Co, Rh, Ir, Ni, Pd, Pt, V, Cr, Mn, etc.; metal-metal bond may exists between M1 and M2; Y = H, halo, amino, OH, C1-20 hydrocarbylamino, (un)substituted C1-10 alkoxy,, C6-20 aryloxy, C7-20 aralkyloxy] are prepared I and II are useful as catalysts. E.g., 2-H2NC6H4PPh2 was treated with HC(OEt)3 in toluene containing a catalytic amount of p-MeC6H4SO3H at 100° for 12 h to give 2-Ph2PC6H4N:CHNHC6H4PPh2-2 (III). E.g., an acetone solution of this ligand III was then reacted with PdMeCl(tmeda) to give II (R1, R2, R12, R13 = Ph, R3-R12 = H, M1X1, M2X2 = PdMe, Y = Cl, A1, A2 = P) in 86% yield.

L9 ANSWER 12 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2003:183858 CAPLUS

TI Synthesis, structural characterization, and polymerization activity of monocyclopentadienyl hafnium amidinate complexes

AU Kissounko, Denis A.; Sita, Lawrence R.

CS Department of Chemistry and Biochemistry, University of Maryland, College Park, MD, 20742, USA

SO Abstracts of Papers, 225th ACS National Meeting, New Orleans, LA, United States, March 23-27, 2003 (2003), INOR-816 Publisher: American Chemical Society, Washington, D. C. CODEN: 69DSA4

DT Conference; Meeting Abstract

LA English

AB Despite the large number of group 4 metallocenes that are active for the stereoselective Ziegler-Natta polymerization of α -olefins, there remains considerable interest in the development of other classes of initiators that bear ancillary ligands with distinctly different electronic and steric properties than the cyclopentadienyl group. In this regard, we have recently shown that monocyclopentadienyl zirconium acetamidinates of the general formula, $[(\eta^5\text{-C}_5\text{R}_5)\text{ZrMe}_2[\text{N}(\text{R}_1)\text{C}(\text{Me})\text{N}(\text{R}_2)]]$ produce highly

active cationic initiations for the living and stereospecific polymerization of α -olefins upon activation with a borate cocatalyst. This talk will focus on the results of recent investigations involving the synthesis, structural characterization, and polymerization activity of di-Me and diisobutyl

hafnium amidinates, several of which have been obtained through a novel route to new group 4 metal amidinate complexes that involves chemoselective functionalization of a metal-bound acetamidinate ligand.

L9 ANSWER 13 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2002:928485 CAPLUS

DN 138:153625

TI Chemoselective "On-Site" Functionalization of Group 4 Metal Acetamidinates

AU Zhang, Yonghui; Kissounko, Denis A.; Fettinger, James C.; Sita, Lawrence R.

CS Department of Chemistry and Biochemistry, University of Maryland, College Park, MD, 20742, USA

SO Organometallics (2003), 22(1), 21-23

CODEN: ORGND7; ISSN: 0276-7333

PB American Chemical Society

DT Journal

LA English

OS CASREACT 138:153625

AB Deprotonation of group 4 monocyclopentadienyl metal acetamidinates can be achieved in high yield using sterically encumbered bases to provide enolate complexes that can subsequently be reacted with electrophiles to produce several new classes of metal amidinates that are not accessible by conventional routes. Reaction of $[\text{Cp}^*\text{MCl}_2(\text{tBuNCMeNet-N,N}')] (1a, \text{M} = \text{Zr})$ with triphenylsilyllithium gave deprotonation product, $\text{Li}[\text{Cp}^*\text{ZrCl}_2(\text{tBuNC}(\text{:CH}_2)\text{Net-N,N}')] (2a)$ which dimerizes in coordinating solvents to give neutral chloro-bridged $[\text{Cp}^*2\text{Zr}_2(\mu\text{-Cl})_2(\text{tBuNC}(\text{:CH}_2)\text{Net-N,N}')_2] (4)$. Similar deprotonation of hafnium complex 1b followed by electrophilic addition of RCl ($\text{R} = \text{PhCH}_2$, CH_2Cl , Me_2SiCl) gave $[\text{Cp}^*\text{HfCl}_2(\text{tBuNC}(\text{CH}_2\text{R})\text{Net-N,N}')] (5a-c)$ substituted acetamidinate complexes in one-pot procedure. Reaction of 2a with $\text{B}(\text{C}_6\text{F}_5)_3$ resulted in zwitterionic amidinate complex $[\text{Cp}^*\text{ZrCl}(\text{OEt}_2)(\text{tBuNC}[\text{CH}_2\text{B}(\text{C}_6\text{F}_5)_3]\text{Net-N,N}')] (6)$. Crystal structures of 4, 5a-c, and 6 are reported. Functionalized complexes 5a-c provide the possibility of anchoring of half-sandwich polymerization catalysts on solid supports.

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 14 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2001:879002 CAPLUS

DN 136:200289

TI Synthesis, reactivity, and crystal structures of ferrocene-substituted amidinate derivatives

AU Hagadorn, John R.; Arnold, John

CS Department of Chemistry, University of California, Berkeley, CA, 94720-1460, USA

SO Journal of Organometallic Chemistry (2001), 637-639, 521-530

CODEN: JORCAI; ISSN: 0022-328X

PB Elsevier Science S.A.

DT Journal

LA English

OS CASREACT 136:200289

AB Reaction of FcLi (Fc = ferrocenyl) with DCC (DCC = 1,3-dicyclohexylcarbodiimide), followed by the addition of water, yields the ferrocene-containing amidine $\text{Fc}(\text{NCy})\text{NHCy}$ in 50% yield. The amidine is readily deprotonated by $\text{LiN}(\text{SiMe}_3)_2$ or $\text{NaN}(\text{SiMe}_3)_2$ to yield alkali metal

amidinates, $[\text{FcC}(\text{NCy})_2]\text{Li}$ and $[\text{FcC}(\text{NCy})_2]\text{Na}$, in high yields. These serve as convenient sources of $[\text{FcC}(\text{NCy})_2]^-$ for a wide range of salt-metathesis reactions with transition metal halides. Reactions of $[\text{FcC}(\text{NCy})_2]\text{Li}$ with 0.5 equiv MX_2 ($\text{M} = \text{Fe}, \text{Co}$; $\text{X} = \text{Cl}, \text{Br}$) form the paramagnetic 4-coordinate derivs. $[\text{FcC}(\text{NCy})_2]_2\text{M}$. Reaction of $[\text{FcC}(\text{NCy})_2]\text{Na}$ with $\text{CpFe}(\text{CO})_2\text{I}$ affords the carbamoyl derivative $\text{CpFe}(\text{CO})[\text{FcC}(\text{NCy})\text{N}(\text{Cy})\text{C}(\text{O})]$. Although not thermally labile, a CO ligand is readily lost upon UV irradiation to give the amidinate derivative $\text{CpFe}(\text{CO})[\text{FcC}(\text{NCy})_2]$. The addition of ^{13}CO (50 psig) to a solution of $\text{CpFe}(\text{CO})[\text{FcC}(\text{NCy})_2]$ results in the rapid exchange of CO at 25° . Heating this solution to 80° results in the partial formation of the carbamoyl species by a formal CO insertion into an Fe-N bond. Reaction of $[\text{FcC}(\text{NCy})_2]\text{Li}$ with 0.5 equiv $[\text{Rh}(\text{CO})_2(\mu\text{-Cl})]_2$ forms orange $[\text{FcC}(\text{NCy})_2]\text{Rh}(\text{CO})_2$ in good yield. Cyclic voltammetry measurements in THF reveal a quasi-reversible oxidation at $E_{1/2} = +0.46 \text{ V}$ followed by an irreversible oxidation at $+1.49 \text{ V}$ (vs. Cp_2Fe). Chemical oxidation of $[\text{FcC}(\text{NCy})_2]\text{Rh}(\text{CO})_2$ with AgBF_4 generates the amidine-containing product $\{[\text{FcC}(\text{NCy})\text{NHCy}]\text{Rh}(\text{CO})_2\}[\text{BF}_4]$.

RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 15 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2001:351420 CAPLUS

DN 135:153131

TI Ab initio study of ethylene insertion into M-C bonds of alkylamidinates complexes of group IV ($\{\text{R}'\text{NCRNR}'\}_2\text{MCH}_3^+$, $\text{M} = \text{Zr}, \text{Ti}$, $\text{R} = \text{H}, \text{Ph}$ and $\text{R}' = \text{H}, \text{SiMe}_3$)

AU Ramos, J.; Cruz, V.; Munoz-Escalona, A.; Martinez-Salazar, J.

CS GIDEM, Instituto de Estructura de la Materia, CSIC, Madrid, 28006, Spain

SO Polymer (2001), 42(17), 7275-7284

CODEN: POLMAG; ISSN: 0032-3861

PB Elsevier Science Ltd.

DT Journal

LA English

AB Alkylamidinate complexes have been recently reported to be useful catalysts for olefin polymerization as an alternative to metallocene systems. The present work reports theor. calcns. performed at DFT level for ethylene insertion reactions in zirconium and titanium alkylamidinate compds. with variable structural complexity. The energy barriers obtained for these reactions show that these systems can be considered as efficient olefin polymerization catalysts, but less active than their metallocene counterparts, in agreement with exptl. findings. A comparison between alkylamidinates of Ti and Zr is also provided.

RE.CNT 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 16 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2000:795775 CAPLUS

TI Heterocumulene metathesis and metal amidinates for Ziegler-Natta polymerizations.

AU Sita, Lawrence R.; Jayaratne, Kumudini C.

CS Department of Chemistry and Biochemistry, University of Maryland, College Park, MD, 20742, USA

SO Abstracts of Papers, 220th ACS National Meeting, Washington, DC, United States, August 20-24, 2000 (2000) INOR-330

CODEN: 69FZC3

PB American Chemical Society

DT Journal; Meeting Abstract

LA English

AB As will be presented in this talk, crystallog. has played a critical role in the development of tin(II)-mediated heterocumulene metathesis as a new synthetic tool for the high yield production of triorganosilyl metal

chalcogenolates and carbodiimides. Insertion of the latter compds. into a metal-Me bond of Group IV trimethylmonocyclopentadienyl metal complexes provides a direct route to precatalysts that are capable of producing a range of new classes of homopolymers and block polymers with well-defined microstructures through the stereospecific living Ziegler-Natta polymerization

of
 α -olefins.

L9 ANSWER 17 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1998:570928 CAPLUS
DN 129:169736
OREF 129:34327a,34330a
TI The synthesis and reactivity of transition metal
amidinates
AU Hagadorn, John Robert
CS Univ. of California, Berkeley, CA, USA
SO (1998) 211 pp. Avail.: UMI, Order No. DA9828711
From: Diss. Abstr. Int., B 1998, 59(4), 1643
DT Dissertation
LA English
AB Unavailable

=> s "tris-amidinate"
135302 "TRIS"
396 "AMIDINATE"
L10 2 "TRIS-AMIDINATE"
("TRIS" (W) "AMIDINATE")

=> d 1-2 bib abs

L10 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2005:453007 CAPLUS
DN 143:145139
TI The synthesis of a sterically hindered samarium(II) bis(amidinate) and
conversion to its homoleptic trivalent congener
AU Cole, Marcus L.; Junk, Peter C.
CS School of Chemistry, Monash University, Victoria 3800, Australia
SO Chemical Communications (Cambridge, United Kingdom) (2005), (21),
2695-2697
CODEN: CHCOFS; ISSN: 1359-7345
PB Royal Society of Chemistry
DT Journal
LA English
OS CASREACT 143:145139
AB The 1st divalent samarium bis(amidinate), [Sm(L)2(THF)2] (HL =
N,N'-bis(2,6-diisopropylphenyl)formamidine), was prepared and aspects of its
novel chemical, including the preparation of a sterically hindered homoleptic
Sm(III) tris(amidinate), [Sm(L)3], explored.
[Na(THF)5][SmI2(L)2(THF)] and [SmF(L)2(THF)] were also prepared and
characterized by x-ray crystallog.
RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:160115 CAPLUS
DN 134:340531
TI Synthesis and solid-state structure of (Li4Am3)+·{Li[(μ -
Me)2Al(Me)tBu]2}- {Am = [PhNC(Ph)NPh]-}: a polymeric species incorporating
a lithium-nitrogen cluster cation
AU Davies, Robert P.; Linton, David J.; Schooler, Paul; Snaith, Ronald;
Wheatley, Andrew E. H.

CS Department of Chemistry, Imperial College of Science, Technology and
 Medicine, London, SW7 2AY, UK
 SO European Journal of Inorganic Chemistry (2001), (3), 619-622
 CODEN: EJICFO; ISSN: 1434-1948
 PB Wiley-VCH Verlag GmbH
 DT Journal
 LA English
 OS CASREACT 134:340531
 AB The sequential reaction of PhN(H)C(Ph)NPh (AmH) with AlMe₃ and tBuLi gives
 both the cluster (Li₄Am₃)⁺·{Li[(μ-Me)₂Al(Me)tBu]₂}⁻ (5) and the
 Al tris(amidinate) AlAm₃ (6). In the solid state, 5
 has a polymeric structure based on tetranuclear Li₄-cluster cations and Li
 bis(aluminate) anions which associate by the formation of weak
 Li...Al bonds.
 RE.CNT 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

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=> s "tris-amidinates"
      135302 "TRIS"
      130 "AMIDINATES"
L11      0 "TRIS-AMIDINATES"
          ("TRIS"(W)"AMIDINATES")
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---Logging off of STN---

=>

Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	130.21	309.70
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-25.60	-25.60

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